REQUEST FOR RECONSIDERATION

Claims 7-8, 10-27 remain active un this application.

The claimed invention is directed to a process for the sequential production of a library of N different solids comprising heterogeneous catalysts.

Combinatorial library production allows for rapid generation of compositions to be screened for activity. Rapid and efficient efforts to prepare libraries of heterogeneous catalysts for screening are sought.

The claimed invention addresses this problem by providing a process for the sequential production of a library of N **compositionally** different solids, comprising heterogeneous catalysts, comprising a) preparing at least two different sprayable compositions, b) continuously metering a predefined ratio of the at least two different sprayable compositions into a mixing apparatus, forming a mixture, c) continuously drying to produce a dried mixture and recovering, and d) changing the ratios in step b) until N **compositionally** different solids are obtained, wherein the ratio in b) and d) is set and changed by **changing or adapting the flow velocities of the different solutions**, emulsions and/or dispersions during the metering into the mixing apparatus and **the total stream of the individual solutions**, emulsions and/or dispersions **remains constant** during the metering in the mixing apparatus and to the drying. Applicants have discovered such a process to provide for efficient and rapid production of a library of N **compositionally** different solids. Such a process is nowhere disclosed or suggested in the cited art of record.

The rejection of claims 7, 8 and 10-27 under 35 U.S.C. §103(a) over Ushikubo et al. in view of Sun et al. U.S. 6,689,613, in view of Schunk et al. U.S. 2001/0039330, in view of Lugmair et al. U.S. 2004/0110636 and in further view of Otake et al. U.S. 4,520,127 is respectfully traversed.

None of the **five** cited art of record discloses or suggests a process in which N **compositionally** different solids are obtained wherein the **total stream** of individual solutions, emulsions and/or dispersions **remains constant** when changing the ratio in step b). The reliance on five references in asserting obviousness speaks volumes as to the lack of obviousness of the claimed process.

Ushikubo et al. disclosed a process for preparing **a** catalyst by spray drying a solution or slurry containing Mo, V and Te (see abstract). There is no disclosure of preparing a library of different solids. A constant total stream is irrelevant to this disclosure since multiple catalysts are not being prepared.

Sun et al. discloses a method of **screening a** combinatorial **library** by reacting with a carbon source and screening the products for the production of carbon fibrils (see abstract and example 1). In an embodiment for preparation of the catalyst library, an array of liquid dispensers are programmed to dispense liquids onto a substrate, dried and calcined (column 3, lines 12-24). There is no disclosure of a total stream remaining constant in the preparation of **compositionally** different solids.

Schunk et al. discloses a process for producing **arrays** of heterogeneous catalysts by coating channels in an array with a predetermined amount of materials to provide a predetermined composition, followed by treating with a reactive gas, and heating if necessary (see abstract). Paragraph [0099] as been cited for disclosing continuous metering in the preparation of a heterogeneous catalyst library. However, this section merely describes **only metering** catalyst precursors from separate vessels into the channels. The reference fails to describe a library production method in which products are dried and recovered, but rather only describes preparation of an array in which the catalysts are formed in separate channels of the array. There is no disclosure of a total stream remaining constant in the preparation of **compositionally** different solids.

Lugmair et al. discloses a combinatorial approach in which a catalyst is subject to different **mechanical treatments**, providing an array of materials for catalysis research (see abstract). The mechanical treatments do not substantially alter the chemical composition of the catalysts. There is no disclosure of preparing different solids having different compositional ratios in the preparation of **compositionally** different solids. A constant total stream is irrelevant to this disclosure since multiple catalyst compositions are not being prepared.

Otake et al. discloses a process for preparing an oxidation catalyst composition, wherein components containing V, P and silica sol are combined to form an aqueous slurry, spray-dried and calcined (see abstract). In the spray drying process, the supply of the aqueous slurry and the rotational speed of the disk are controlled so that the average particle size is more uniform (column 8, lines 36-59). The **composition** of the aqueous slurry is **static** and any changes to the supply of the slurry and rotational speed of the disk does not alter the composition of the solid particles.

In contrast, the claimed invention is directed to a process in which the total stream of individual components **remains constant** during the metering in the preparation of **compositionally** different solids. There is no disclosure or suggestion to form a library of compositionally different solids using a constant total stream of individual solutions.

*No Motivation To Combine Teachins of Lagmair et al. and Otake et al.*

While it is not exactly clear as to how Lugmair and Otake et al. are being relied upon, applicants note that Lugmair et al. prepares catalyst materials having a particular size distribution by grinding and sieving (paragraph [0008]). The particle distributions are not obtained by drying a solution of catalyst.

In contrast, Otake et al. forms a uniform particle size distribution by control of the solution supply and rotational speed of disks. Thus, the particle size is adjusted through the specifics of the dying technique.

Since Lugmaier et al. employs a mechanical force followed by classification, while Otake et al. uses drying conditions to adjust particle size, the teachings of the two references are simply not combinable.

*Otake et al. Describes A Homogeneous Composition*

As noted above, Otake et al. describes controls of the particle size of a catalyst material by adjusting the drying conditions in terms of the supply of solution and rotational speed of the disk. Such drying parameters do not alter the composition of the catalyst material. As such, the conditions used to obtain a particular particle distribution would not suggest conditions to obtain compositionally different catalyst compositions. More specifically, even if Otake et al. were to disclose a constant supply of solution to a disk, such a technique would be irrelevant to supply of solutions in the **preparation** of catalyst compositions.

*No Disclosure In Otake et al. Of Varying Flow Velocities While Maintaining A Constant Total Steam*

At best, Otake et al. would describe supplying a constant volume of solution to a disk while drying. In such a fashion the particle size could be controlled. Such a process does not suggest in any way adjustment of stream velocities of different solutions, while maintaining a constant total stream. There is a world of difference between maintaining a constant volume in controlling particle size and maintaining a constant total stream while adjusting stream velocities in preparing compositionally different catalyst compositions.

As the cited art fails to disclose the claimed aspect of the total stream of individual solutions, emulsions and/or dispersions remaining constant, the claimed invention would not have been obvious and accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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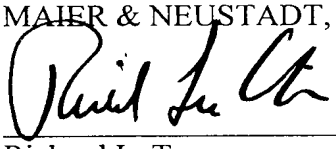

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